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EXAMINER

HUNG, YUBIN

ART UNIT PAPER NUMBER

2625

DATE MAILED: 05/28/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/894,097

Applicant(s)

BAYRAMOGLU ET AL.

Examiner

Yubin Hung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 9, 10, 11, 13, 14, 16, 19, 20, 22, 23, 26, 27 are rejected under 35 U.S.C. 102 (b) as being anticipated by Arai (US 5,546,195).

3. Regarding claim 9, and similarly claims 1, 19, Arai discloses

- an illuminant sensor to sense an illuminant  
[Fig. 3, numeral 31; Fig. 9, numerals S1-S2; Col. 4, lines 43-47; Col. 6, lines 42-45]
- color correction software, comprising: code to perform color correction for a color output device based on the illuminant  
[Fig. 3, numerals 3, 33; Fig. 9, numerals S3-S9; Col. 4, lines 56-59; Col. 5, line 19 - Col. 6, line 64. Note that the neural networks constitute part of the software]

4. Regarding claim 10 Arai further discloses

- the color correction software further comprising: code to read the illuminant sensed by the illuminant sensor  
[Col. 4, lines 56-59. Note that the existence of code to process the received illuminant signal in order to determine the illuminant type is inherent]

5. Regarding claim 11, and similarly claim 2, Arai further discloses

- the color correction software further comprising: code to drive the color output device with the color correction based on the illuminant

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[Fig. 3, numerals 3, 3a, 3b, 3n, d, 33; Col. 6, lines 16-25. Note that since the color output device (i.e., printer 33 in this case) prints according to the color separation signal d, the existence of a code to drive the printer is inherent]

6. Regarding claim 13, and similarly claim 3,

- the color correction software further comprising: code to add an illuminant mode based on the illuminant to a color profile for the color output device  
[Fig. 3, numerals 3, 3a, 3b, 3n; Col. 5, lines 34-53. Note that the neural networks also represent the color profile with respect to the illuminants and the color output devices they are trained for. The existence of code to add them to the neural network management unit is inherent]

7. Regarding claims 14, 16, 20 and similarly claims 4 and 6, Arai further discloses

- (Claim 14) the illuminant sensor senses the illuminant in a lighting environment where the color output device is located  
[Fig. 3, numerals 32c, 33]
- (Claim 16) the color output device comprises a color printer  
[Fig. 3, numeral 33]
- (Claim 20) a means for printing an image on a color printer of the computer system with the color correction based on the illuminant  
[Fig. 3, numeral 33]

8. Regarding claim 22, Arai discloses

- a processor  
[Fig. 3, numeral 32a; Col. 4, lines 53-55. Note that while not expressly disclosed, it is inherent that the body of the workstation 33a includes a processor]
- a color output device  
[Fig. 3, numeral 33; Col. 6, lines 23-24]
- an illuminant sensor to sense an illuminant  
[Fig. 3, numeral 31; Col. 4, lines 43-47]
- color correction software executable by the processor to perform color correction for the color output device based on the illuminant  
[Fig. 3, numerals 3, 33; Fig. 9, numerals S3-S9; Col. 4, lines 56-59; Col. 5, line 19 - Col. 6, line 64. Note that the neural networks constitute part of the software]

9. Regarding claim 23, Arai further discloses

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- the color output device comprises a color printer [Fig. 3, numeral 33]

10. Regarding claim 26, Arai discloses

- a means for receiving illuminant information representing an illuminant sensed by an illuminant sensor [Fig. 3, numeral 31, 32a; Col. 4, lines 56-59]
- a means for performing color correction for a color output device based on the illuminant [Fig. 3, numerals 3, 33; Fig. 9, numerals S3-S9; Col. 4, lines 56-59; Col. 5, line 19 - Col. 6, line 64. Note that the neural networks constitute part of the means]

11. Regarding claim 27, Arai further discloses

- the color output device comprises a color printer [Fig. 3, numeral 33]

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 5,546,195) as applied to claims 1-4, 6, 9, 10, 11, 13, 14, 16, 19, 20, 22, 23, 26, 27 above, further in view of Hidaka et al. (US 6,373,531).

14. Regarding claim 12, Arai et al. discloses everything except the following, which Hidaka et al. teaches

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- the illuminant sensor is part of the color output device [Fig. 7, numeral 16; Col. 10, lines 55-59]

Arai and Hidaka et al. are combinable because they are form the same field of endeavor of color correction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Arai with the teaching of Hidaka et al. by making the light sensor as a part of the monitor (i.e., the color output device). The motivation would have been to ensure that the light sensor is always present to provide input for color correction. (If the light sensor is a separate unit, there is always a risk that it may be misplaced or may not be connected to the monitor).

Therefore, it would have been obvious to combine Hidaka et al. with Arai obtain the invention as specified in claim 12.

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15. Claims 5, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 5,546,195) as applied to claims 1-4, 6, 9, 10, 11, 13, 14, 16, 19, 20, 22, 23, 26, 27 above, further in view of Farrell. (EP 0781036).

16. Regarding claim 15, and similarly claim 5, Arai et al. discloses everything except the following, which Farrell teaches

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- the illuminant sensor senses the illuminant in a lighting environment where an image to be output by the color output device is captured by a digital camera  
[Fig. 1, numerals 12, 16; Col. 4, lines 24-29]

Arai and Farrell are combinable because they are form the same field of endeavor of color correction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Arai with the teaching of Farrell by having the illuminant sensor sense the illuminant in a lighting environment where an image to be output by the color output device is captured by a digital camera. The motivation would have been to be able to generate the scene signature (i.e., the spectral reflectance data associated with a color image), which uniquely describes the scene that is captured in the image but without the combined effect of the illuminant and the image capture device and therefore the display operators can independently adjust the surface and lighting components of the scene signature to achieve desired image [Farrell: Col. 2, line 58 – Col. 3, line 3].

Therefore, it would have been obvious to combine Farrell et al. with Arai obtain the invention as specified in claim 15.

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17. Claims 7, 8, 17, 18, 21, 24, 25, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 5,546,195) as applied to claims 1-4, 6, 9, 10, 11, 13, 14, 16, 19, 20, 22, 23, 26, 27 above, further in view of Spaulding et al. (US 5,805,213).

18. Regarding claim 18, and similarly claims 8, 25, 29 Arai et al. discloses everything except the following, which Spaulding et al. teaches

- the color output device comprises a color digital camera  
[Fig. 4, numeral 40; Col. 9, lines 24-27]

Arai and Spaulding et al. are combinable because they are form the same field of endeavor of color correction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Arai with the teaching of Spaulding et al. by using a digital camera as a color output device. The motivation would have been (for a service provider) to be able to serve a very large customer base because digital cameras are widely used.

Therefore, it would have been obvious to combine Spaulding et al. with Arai obtain the invention as specified in claim 18.

19. Regarding claim 17, and similarly claims 7 and 21, 24, 28, Spaulding et al. further discloses

- the color output device comprises a color monitor  
[Col. 1, lines 51-60]



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20. Claims 30-31, 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaulding et al. (US 5,805,213), in view of Farrell (EP 0781036).

21. Regarding claim 30, Spaulding et al. discloses

- reading illuminant information associated with a color image [Fig. 4, numerals 40-44; Col. 9, lines 12-18]
- performing color correction for the color image based on the illuminant information [Fig. 4, numerals 44,46; Col. 9, lines 18-21]

Spaulding et al. does not expressly disclose the following, which Farrell teaches

- additionally reading spectral reflectance data associated with a color image [Fig. 2, numerals 160, 180; Col. 5, lines 19-21, 34-36. Note that in numeral 180 the scene matrix (i.e., the spectral reflectance) is read from 160]
- performing color correction for the color image based additionally on the spectral reflectance data [Fig. 2, numeral 180; Col. 5, lines 34-36. Note that in numeral 180 the scene matrix is employed for the color correction]

Spaulding et al. and Farrell are combinable because they are from the same field of endeavor of color correction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Spaulding et al. with the teaching of Farrell by reading and using spectral reflectance data associated with a color image to perform color correction. The motivation would have been because the spectral reflectance data associated with a color image uniquely describes the scene that is captured in the image but without the

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effect of the image capture device and therefore the display operators can independently adjust the surface and lighting components of the scene signature to achieve desired image [Farrell: Col. 2, line 58 – Col. 3, line 3].

Therefore, it would have been obvious to combine Farrell with Spaulding et al. to obtain the invention as specified in claim 30.

22. Regarding claim 31, Spaulding et al. further teaches

- the illuminant information and the spectral reflectance data are embedded in the color image  
[Claim 15 teaches embedding information related to an image in the same data structure for the image]

23. Regarding claim 33, per the analyses of claims 30 and 31, Spaulding et al. and Farrell disclose/teach everything except the following, which Spaulding et al. further discloses

- sensing an illuminant condition in which a color image is captured by a color digital camera  
[Fig. 4, numerals 40, 42; Col. 9, lines 14-15 (illuminant sensing) and 24-26 (digital camera)]

24. Regarding claim 34, per the analysis of claim 3 Spaulding et al. and Farrell disclose/teach everything except the following, which Spaulding et al. further discloses

- embedding the illuminant information and the spectral reflectance data in the color image  
[Claim 15 teaches embedding information related to an image in the same data structure for the image]

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25. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaulding et al. (US 5,805,213) and Farrell (EP 0781036) and as applied to claims 30-31, 33-34 above, further in view of Anabuki (US 6,091,518).

26. Regarding claim 32, Spaulding et al. and Farrell disclose/teach everything except the following, which Anabuki teaches

- receiving data needed for color correction from a web browser

[Fig. 2, numerals 200, 300; Col. 9, lines 24-38]

Spaulding et al., Farrell and Anabuki are combinable because they are from the same field of endeavor of color correction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Spaulding et al. and Farrell with the teaching of Anabuki by receiving data needed for color correction from a web browser. The motivation would have been because the Internet has been a popular means for people to exchange images or for businesses to offer services (such as photo editing) and the user interface to the Internet is typically provided by a web browser.

Therefore, it would have been obvious to combine Anabuki with Spaulding et al. and Farrell to obtain the invention as specified in claim 32.

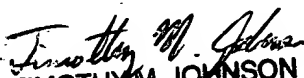
**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung  
Patent Examiner  
May 25, 2004

  
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PRIMARY EXAMINER